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Big Data: Medical Claims Data for Translational Research: Medicaid

Bruce A. Barton

University of Massachusetts Medical School

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Big Data: Medical Claims Data for Translational Research

Medicaid

Bruce A. Barton, Ph.D.

Team Leader, Research Methods (Biostatistics)

Research and Evaluation Unit

Commonwealth Medicine

Overview

- Description of Medicaid datasets
- Most commonly used variables on each datasets
- Examples of translational analyses using Medicaid

Eligible Populations

- In Massachusetts, Medicaid and CHIP programs are combined under one “roof” (MassHealth)
- Groups with incomes below 133% of Federal Poverty Level
 - Adults (employed or not)
 - Children
 - Disabled adults
 - Pregnant women
 - HIV+ individuals
 - Dept of Mental Health clients
 - Senior citizens (also eligible for Medicare)
 - Women with breast/cervical cancer
 - People in need of long-term care

Individual-level data

The available Medicaid data (MAX files) include:

- Personal summary
- Other therapy claims
- Inpatient claims
- Prescription claims
- Long-term care claims
- Provider characteristics
- Medicare-Medicaid linked enrollee
- Mini MAX

Personal Summary

- Available from Fiscal Year 1999 to 2009 (~ 3 year lag)
- One record per person in system for at least one day
- Contents:
 - Demographics
 - Eligibility category and Zip code
 - Maintenance assistance status
 - Monthly enrollment status
 - Utilization summary
 - Open and close reasons
 - Program
 - Mortality information

Other Therapy Claims Data

- Contents:
 - Physician services
 - Lab/radiology
 - Clinic/ambulatory care
 - Home health
 - Hospice
 - Durable medical equipment

Inpatient Claims Data

- Contents:
 - Admission information
 - Diagnoses
 - Procedures
 - DRG (Diagnosis-Related Group)
 - Revenue codes
 - Discharge status
 - Length of stay

Prescription Drug Claims Data

- Contents:
 - Date of prescription/fill
 - Provider
 - NDC code
 - New/refill
 - Days supply
 - Drug class/therapeutic class
 - OTC indicator

Other Therapy Claims Data

- Contents:
 - Diagnoses
 - Procedures
 - Dates of start/end of service
 - Medicare payment information (for dual elig)
 - Provider

Long-term Care Data File

- Nursing facilities
- Independent care facilities
- Independent psychiatric facilities
- Adult foster care
- Home health care
- Hospice

Long-term Care Long-Term Data File

- Contents:
 - Date of admission and dates of service
 - Institution and type
 - Days by type of institution

Mini-MAX

- 5% cross-sectional national sample of Medicaid data
- Summary of data for each patient in sample, including characteristics, diagnoses, and utilization
- Oversample small states and select subgroups to increase stability of estimates

Types of Projects

- Utilization studies for disparities research:
 - Homeless
 - Recent immigrants
 - Disabled (physically/mentally)
- Effect of policy changes (state or federal) on utilization (and prescribing) patterns
- Utilization of different service types for low-income families

Types of Projects (Cont.)

- Utilization of services for patients with particular diagnoses (e.g., diabetes, asthma, substance abuse)
- Cost of new vs. old treatments/medications
- Adverse events from treatments – Phase IV / surveillance studies?
- Utilization of cancer screening services – and outcomes

Types of Projects (Cont.)

- Although many patients/individuals will come and go in the Medicaid program, some subgroups (such as the disabled, homeless, or those with substance abuse problems) are traceable across time – so that it is possible to follow longitudinal treatment patterns (and cost) across multiple years
- Have to be careful of biases, such as a cohort effect, but could provide beneficial information

How to get started

- Contact Robin Clark or Wen-Chieh Lin at CHPR to discuss idea of project and how to frame it in the context of Medicaid data
- Contact RESDAC (www.resdac.org) about Medicaid data availability, cost, and requirements to receive data
- RESDAC (Research Data Assistance Center) is gateway to CMS data – forms, procedures, advice, costs

Cautions

- After RESDAC acceptance (may require one or more revisions to data request), can take several months to receive data
- Data files can be quite large and would be best to utilize UMMS Regulatory Environment (Linux servers) to store/analyze data
- Three layers of privacy: research identifiable files, limited data sets, and public access files

➤ Thanks!!

➤ Questions?